

WHAT IS CLAIMED IS:

1. A tool for manipulating a flexible intervertebral implant comprising:
a guide assembly having a chamber to receive a flexible intervertebral implant; and
a manipulation assembly movable within the chamber and engageable with the flexible intervertebral implant to manipulate the intervertebral implant into a smaller dimension.
2. The tool as recited in Claim 1, wherein the guide assembly includes an opening in an outer surface thereof, the opening being connected to the chamber.
3. The tool as recited in Claim 2, wherein the manipulation assembly includes a manipulation member movable within the chamber and positionable adjacent the opening to engage the intervertebral implant.
4. The tool as recited in Claim 3, wherein movement of the manipulation assembly relative to the guide assembly engages the manipulation member with the intervertebral implant to reduce the overall size of the intervertebral implant within the chamber.
5. The tool as recited in Claim 4, wherein movement of the manipulation assembly relative to the guide assembly, moves the intervertebral implant longitudinally within the chamber.
6. The tool as recited in Claim 5, further comprising a connector affixed at a first end to one of the guide assembly or manipulation assembly and movably connected at an opposite end to the other of the guide assembly or manipulation assembly.
7. The tool as recited in Claim 6, wherein the connector includes a drive pin movable within a track on one of the guide assembly or manipulation assembly.
8. The tool as recited in Claim 1, wherein the guide assembly includes a holder for receipt of a storage member.

9. The tool as recited in Claim 1, wherein the manipulation assembly includes a plunger assembly for ejecting the intervertebral implant from the guide assembly.
10. The tool as recited in Claim 1, wherein the manipulation assembly twists the flexible intervertebral implant into a smaller configuration within the chamber.
11. The tool as recited in Claim 10, wherein the flexible intervertebral implant is twisted into a shape consisting of a generally O, C or S shape.
12. The tool as recited in Claim 9, wherein the plunger assembly ejects a storage member retained in the guide assembly.
13. A method of manipulating a flexible intervertebral implant comprising:
providing a guide assembly having a chamber for receipt of a flexible intervertebral implant; and
a manipulation assembly movable within the chamber of the guide assembly;
positioning a flexible intervertebral implant within the chamber of the guide assembly; and
moving the manipulation assembly relative to the guide assembly to engage the intervertebral implant such that the intervertebral implant is altered in shape.
14. The method as recited in Claim 13, wherein moving the manipulation assembly engages and twists the intervertebral implant into a generally O-shape.
15. The method as recited in Claim 13, wherein moving the manipulation assembly moves the intervertebral implant from within the chamber and into a storage member.
16. The method as recited in Claim 13, wherein moving the manipulation assembly ejects the intervertebral implant from the guide assembly.

17. A system for inserting an intervertebral implant into an intervertebral disk space comprising:

a guide member having a chamber for receiving an implant;

a manipulation member movable within the chamber and engageable with the implant;

a storage member releasably mounted to the guide member to receive the implant within the storage member; and

an insertion tool configured to receive the storage member and move the implant into an intervertebral disk space.

18. The system as recited in Claim 17, wherein the manipulation member engages the implant such that the implant is reduced in size.

19. The system as recited in Claim 17, wherein the manipulation member manipulates the implant into a generally S-shape.

20. The system as recited in Claim 17, wherein the manipulation member engages the implant such that the implant is positioned in the storage member.

21. An intervertebral implant folding apparatus comprising:

an intervertebral implant folding device having a first and second jaw movably mounted with respect to each other and defining a variable size recess for receipt of an intervertebral implant therebetween; and

a drive member engageable with at least one of the first and second jaws to move the at least one jaw relative to the other jaw to vary the size of the recess.

22. The implant and folding apparatus as recited in claim 21, wherein at least one of the first and second jaws is movably mounted on a guide member.

23. The implant and folding apparatus as recited in claim 21, wherein at least one of the jaws is affixed to a guide member.

24. The implant folding apparatus as recited in claim 21, wherein each of said first and second jaw defines a portion of the recess such that when the first and second jaws are spaced apart the recess has a generally oval shape.

25. The implant folding apparatus as recited in claim 24, wherein the first and second jaws define a generally circular recess when the first and second jaws are moved against each other.

26. The implant folding apparatus as recited in claim 21, further comprising an implantation tube, attachable to the implant folding device, for receipt of an intervertebral implant folded between the first and second jaws.

27. The implant folding apparatus as recited in claim 26, further comprising an implant transfer device, attachable to the implant folding device, to move a folded intervertebral implant from within the recess and into the implantation tube.

28. The implant folding apparatus as recited in claim 27, wherein the implant transfer device includes a pusher movable through the recess to engage the folded intervertebral implant and force the intervertebral implant out of the implant folding device.

29. An implant folding apparatus configured to reduce the size of a flexible intervertebral implant comprising:

an implant folding device having first and second jaws movable relatively to each other, the first and second jaws defining a variable size recess therebetween;

an implant transfer device having a pusher mounted for movement within the recess;
and

an implantation tube for receipt of a folded intervertebral implant.

30. The implant folding apparatus is recited in claim 29 wherein the implantation tube forms a connection tube to be attached to a surgical instrument.

31. A transfer tube for receipt of a folded intervertebral implant comprising:

a transfer sleeve having first and second nuts mounted thereon and a lock member for engagement with a working sleeve.

32. The transfer tube is recited in claim 31, wherein the first nut is threaded for engagement with a folding apparatus.

33. The transfer tube as recited in claim 31, wherein the transfer sleeve has a guide pin for engagement with the folding apparatus.

34. The transfer tube is recited in claim 31, further comprising a connector to positioned within the first and second nuts and configured to engage a working sleeve.

34. The transfer tube is recited in claim 31, wherein the working sleeve includes at least one flexible beam configured to be moved against working sleeve.

35. The transfer tube is recited in claim 34, wherein the flexible beam includes a bump configured to engage corresponding structure on the working sleeve.

36. The transfer tube as recited in claim 34, wherein the second nut includes a camming surface to force the flexible beam against a working sleeve.

37. A surgical instrument for driving a folded intervertebral implant through a tube and into body comprising:

a body portion having a fixed handle and a movable handle movably mounted to the body portion; and

a pusher ride movable through the body portion a response to actuation of the movable handle.

38. The surgical instrument as recited in claim 37, wherein the pusher ride includes ratchet teeth and a movable handle includes a latch engageable with the ratchet teeth.

39. The surgical instrument as recited in claim 38 further comprising a bias spring to bias the latch into engagement with the ratchet teeth.

40. The surgical instrument as recited in claim 37, further comprising a secondary ratchet engageable with the teeth to prevent inadvertent retraction of the pusher ride.

41. A surgical instrument assembly for insertion will folded intervertebral implant into a body comprising:
a transfer tube for receipt and storage of a folded intervertebral implant;
the working sleeve engageable with the distal end of the transfer tube; and
a surgical instrument engageable with the proximal end of the transfer tube and configured to drive the folded intervertebral implant out of the transfer tube, through the working to and into the body.

42. A method of folding a surgical intervertebral implant comprising;
providing a folding apparatus having a pair of jaws movable relative each other and defining a recess therebetween;
inserting an intervertebral implant into the recess; and
moving the jaws toward each other to fold the intervertebral implant.

43. The method as recited in claim 42, further comprising the step of pushing the folded intervertebral implant out of the recess and into a storage device.